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DEPUTY



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STATE OF COLORADO
OFFICE OF STATE ENGINEER
DIVISION OF WATER RESOURCES
DENVER 2

November 26, 1946

SUBJECT:

Mr. M. C. Hinderlinder
State Engineer
Denver, Colorado

Dear Sir:

I herewith present my annual report of activities of the office of Division Engineer of Irrigation Division No. 1 for the year 1946.

The irrigation season of 1946 was very erratic in regard to irrigation supply, there being a very decided deficiency of precipitation during the early part of the season which made the use of reservoir water necessary as early as May, during which month there is usually an ample water supply and often considerable surplus available for storage. There was no customary "spring" runoff, due to the deficient precipitation during the winter and spring months. Following the very dry spring, local rains fell during the latter part of July and during August which to some extent relieved the draft on reservoir water - however, the storms were of such character that frequent orders to the Water Commissioners were necessary, there being 72 separate orders issued for the regulation of diversions from the streams.

There were many destructive hail storms during the latter part of the season, however, most of the small grain had been harvested before these came.

Excessive precipitation during September caused nearly all direct irrigation to be suspended, during which time some water was stored in the reservoirs. Early snow storms during the latter part of October seriously impeded the sugar beet harvest.

All demands for direct irrigation were released October 10 at which time storage for the coming season began in most districts.

The heaviest snow in 30 years fell in the Denver area on November 2, 3, and 4 - there being a fall of 27 inches.

Crops were generally good in the irrigated area, but the dry land crops were damaged by the early protracted dry spell. The native hay yield in the mountain area was below normal and the shortage has caused prices to rise sharply.

A tabulated statement of the amounts of water in storage in this Division on the first of each month accompanies this report. From this table the early season draft on the reservoirs in the various Districts may be noted.

Transmountain diversion of water to this Division amounted to ~~87,625~~ ^{88,388} acre feet, which helped to save many crops which might otherwise have been lost.

No diversion has yet been made by the Colorado-Big Thompson project, however the Adams tunnel is lined and preparations are now being made to divert some water in 1947, and for this reason it will be necessary to have additional competent employees in the Big Thompson district this coming season and provision should be made by the next Legislature to meet this requirement.

There were no failures among the several dams in the Division, although some repair and maintenance work has been done and investigational work is now in progress to correct a bad condition at Standley Lake, the dam there having slipped slowly over a period of years. Several small dams in the Division were repaired or rebuilt.

There was little litigation between water users or officials in this Division, however two suits which may have far-reaching consequences are in progress at this time - one involving the North Sterling Irrigation District vs. the Riverside Irrigation District, and the other involving the Transmountain Diversions vs. the Meadowland Users taking water from the Laramie River.

A tabulation of the Water Commissioners' reports for the several districts in this Division accompanies and forms a part of this report.

Very respectfully submitted

J. E. Whittle
Irrigation Division Engineer
Division No. 1

JEW:FF

TRANSMOUNTAIN DIVERSIONS

IRRIGATION DIVISION NO. 1

1946

<u>NAME OF DIVERSION</u>	<u>FROM DIST.</u>	<u>TO DIST.</u>	<u>SOURCE OF SUPPLY</u>	<u>FIRST DAY</u>	<u>LAST DAY</u>	<u>AC. FT.</u>
Deadman Ditch	48	3	Laramie River	5-29	7-1	942
Laramie Poudre Tunnel	48	3	" "	4-22	6-17	9,435
Skyline Ditch	48	3	" "	5-7	7-4	9,271
Lost Lake Ditch	48	3	" "	-	-	No Diversion
Columbine Ditch	48	3	" "	6-4	6-29	166
Bob Creek Ditch	48	3	" "	5-26	6-29	349
Sand Creek Ditch	48	3	" "	4-24	7-2	3,617
Michigan Ditch	47	3	North Platte River	6-3	8-2	1,917
Cameron Pass Ditch	47	3	" " "	6-4	7-13	262
Grand River Ditch	51	3	Colorado River	4-30	9-12	18,937
Moffat Tunnel	51	6	" "	4-15	10-18	31,984
Williams Fork Tunnel	51	7	" "	5-9	9-21	10,957
Berthoud Pass Ditch	51	7	" "	6-11	8-10	397
Eureka Ditch	51	4	" "	6-8	9-14	<u>154</u>

TOTAL TRANSMOUNTAIN DIVERSION TO IRRIGATION DIVISION NO. 1--Ac.Ft. 88,686

MOFFAT TUNNEL SUMMARY
1946

	<u>ACRE FEET</u>
East Portal.....	31,221
Diverted above Eldorado Springs.....	27,996
Charge loss in transit.....	780
To Clear Creek.....	1,237
To South Boulder Creek.....	2,445
City Use.....	26,759

THE FOLLOWING IS A STATEMENT OF WATER IN STORAGE IN IRRIGATION DIVISION NO. 1

FROM JANUARY 1 TO DECEMBER 1, 1946, TABULATED BY DISTRICTS.

DOES NOT INCLUDE NORTH PARK DISTRICT NO. 47, LARAMIE RIVER BASIN DISTRICT NO. 48, NOR DISTRICT NO. 65

AS THERE IS VERY LITTLE STORAGE IN ANY OF THESE DISTRICTS.

DIST. NO.	JAN. 1	FEB. 1	MAR. 1	APR. 1	MAY 1	JUNE 1	JULY 1	AUG. 1	SEPT. 1	OCT. 1	NOV. 1	DEC. 1
1	103,873	104,691	119,399	130,647	124,787	105,846	88,721	54,236	30,941	27,311	42,878	69,016
2	59,731	72,559	80,042	82,910	82,720	74,010	53,915	30,439	15,948	12,782	25,561	46,659
3	61,943	66,384	67,133	75,038	79,735	96,432	100,664	67,964	25,173	17,087	24,943	34,227
4	51,982	52,995	53,708	54,406	56,304	54,368	48,099	41,601	24,337	11,755	12,692	15,507
5	17,022	17,566	17,996	18,427	18,730	19,036	17,561	14,683	9,212	7,188	7,188	10,700
6	25,136	19,918	17,473	18,960	19,931	19,342	21,808	18,482	11,212	8,764	8,413	11,502
7	9,273	8,010	6,678	4,866	3,901	7,377	12,516	12,541	11,149	10,170	9,094	7,615
8	15,936	16,650	17,581	17,329	16,463	18,082	16,737	15,209	14,619	16,339	17,235	16,794
9	3,689	3,689	4,926	6,329	6,439	5,085	3,559	1,943	1,326	1,250	2,024	2,800
23	179,508	177,960	176,107	176,607	178,966	175,274	172,025	162,293	155,718	151,927	149,120	152,087
64	98,117	107,707	116,687	120,111	116,489	108,286	86,434	53,445	21,016	17,090	36,292	57,792
TOTALS	623,180	648,122	677,730	705,630	704,465	683,138	622,039	472,836	320,651	281,663	335,440	424,699
CITY OF DENVER	201,466	199,340	197,407	195,588	194,581	195,313	196,772	186,274	178,054	175,544	173,243	174,035
BALANCE FOR IRRIG.	421,714	448,782	480,323	510,042	509,884	487,825	425,267	286,562	142,597	106,119	162,197	250,664

ADMINISTRATION OF THE U. S. SUPREME COURT DECREE
RELATIVE TO THE LARAMIE RIVER IN COLORADO FOR THE SEASON
OF 1946

Administration of the Laramie River decree was carried on this year in the same manner as has been done for the past four years with the exception that the agreement for the division of the water between the trans-mountain diversion interests and the meadow-land users was not made in writing, but was verbally agreed to.

There does not at this time appear to be any better method of administering the decree than that now in use; however, litigation between the different interests, which had reached the Colorado Supreme Court, had been held in abeyance until this year when a decision was rendered relative to the distribution of the Colorado allocation, which would have materially altered the method of administration in this case.

This matter is at this time again before the Colorado Supreme Court, a rehearing in the matter having been granted.

A tabulation of the several diversions from the Laramie River in Colorado accompanies this report.

J. E. WHITTEN
Irrigation Division Engineer
Division No. 1

MEADOWLAND DIVERSIONS

<u>NAME OF DITCH</u>	<u>AMOUNT DIVERTED SECOND FEET</u>
Bliler-Boswell.....	387
British Creek No. 1.....	22
Brown - Nunn Creek.....	327
Brown - Porter Creek.....	45
Comet.....	227
Cabin.....	45
Detro No. 1.....	61
Davy.....	221
Forrester - Brown.....	39
Forrester No. 1.....	187
Glendevy.....	17
Grace Creek and Enl.....	622
Grant.....	58
Hills.....	0
Upper Hills.....	9
Homestead.....	137
Homestead No. 1.....	102
Homestead No. 2.....	56
Hance.....	0
Jim - Jimmy Creek.....	174
Jim No. 2 - Jimmy Creek.....	44
Jimmy and Enl. - Jimmy Creek.....	236
Jimmy Creek - Laramie River.....	97
La Garde and Enl.....	215
Lamb.....	524
Link No. 1.....	297
Lone Tree.....	86
Mansfield and Enl.....	429
Mansfield No. 2.....	464
Martin No. 1.....	388
Martin No. 2 and Enl.....	561
McIntyre.....	235
Nellis.....	158
Ollis.....	229
Pache.....	289
Parker.....	0
Pine Creek and Enl.....	49
Rearing Creek.....	72
Stuck.....	187
Smith-Brown.....	338
Stuart No. 1.....	76
Stuart No. 2.....	117
Stubb.....	43
Schnitger.....	261
Trollops.....	49

MEADOWLAND DIVERSIONS - Cont.

<u>NAME OF DITCH</u>	<u>AMOUNT DIVERTED SECOND FEET</u>
Palmadge No. 1.....	59
Timothy.....	302
Warren.....	21
Ward No. 1.....	105
Ward No. 2.....	57
Wright.....	664
Yelton.....	<u>450</u>
Total.....	9838
Total.....	19,569 Acre Feet

TRANSMOUNTAIN DIVERSIONS - LARAMIE RIVER

<u>NAME OF DIVERSION</u>	<u>AMOUNT DIVERTED ACRE FEET</u>
Bob Creek Ditch.....	349
Columbine Ditch.....	166
Deadman Ditch.....	942
Laramie - Poudre Tunnel.....	9435
Lost Lake.....	0
Skyline Ditch.....	<u>9271</u>
Total.....	20,163
GRAND TOTAL.....	39,732 Acre Feet

WATER COMMISSIONERS' ANNUAL REPORTS
IRRIGATION DIVISION NO. 1
FOR THE IRRIGATION SEASON OF 1946

WATER DIST. NO.	FIRST DAY WATER USED FROM NATURAL STREAM	LAST DAY WATER USED FROM NATURAL STREAM	ACRE FEET	TOTAL NO. OF ACRES THAT CAN BE IRRIGATED	ALFALFA	NATURAL GRASSES	CEREALS	ORCHARDS	MARKET GARDENS	POTATOES	SUGAR BEETS	BEANS	PEAS	CABBAGE	CORN	OTHER	TOTAL IRRIGATED
1	4-1-46	10-8-46	230,377	179,082	34,896	19,185	32,608	146	400	3,016	18,546	20,812				9,768	165,393
2	4-1-46	10-30-46	343,144	227,403	38,206	10,603	77,028	280	12,602	12,364	32,312	22,716	856	69	25,947	9,768	220,523
3	4-16-46	10-7-46	311,308	364,160	57,604	5,196	72,554	1,668	4,563	27,810	40,935	8,789	455	2,197	10,451	908	264,160
4	4-10-46	10-31-46	151,645	143,320	46,315	455	61,445	1,605	1,245	8,700	12,150	4,255	2,070	620		3,995	142,855
5	4-4-46	10-31-46	87,692	112,235	37,670	8,855	38,200	90	915		13,355		100			450	99,635
6	4-10-46	10-11-46	103,437	195,335	29,867	58,485	44,260	639	2,765	445	4,396	1,040	720	195	19,508	7,711	170,031
7	3-27-46	10-5-46	108,156	114,883	12,878	1,005	55,266	1,231	10,729	141	965	929	323	1,214	11,166	3,722	99,569
8	3-8-46	10-31-46	102,256	111,419	8,998	704	5,533	55	2,514	0	4,635	121			917	3,000	26,477
9	4-1-46	10-15-46	22,304	16,446	4,822	1,515	5,513	79	345	0	120	0	682	140	275	115	13,606
23	3-21-46	10-25-46	44,610	60,000		48,059											48,059
47			E.100,000	E.70,000		50,000											50,000
48	4-30-46	10-13-46	19,569	5,000		4,600											4,600
64	3-6-46	10-31-46	248,938	176,851	32,828	30,111	39,937	136	3,686	10,991	16,133	3,622	0	21	20,000	4,516	151,379
65	5-1-46	11-7-46	18,180	8,400*	1,082	214	370	15	42	42	205	0			1,505	305	3,749#
TOTALS			1,891,616	1,784,534	304,564	238,987	432,714	5,944	36,805	56,479	143,752	62,284	5,206	5,089	89,769	78,443	1,460,036

* 5,000 acres in Nebraska
1,900 acres in Nebraska